

ORIGINAL TO GENERAL FILES


DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

OFFICE OF DESIGN POLICY & SUPPORT INTERDEPARTMENTAL CORRESPONDENCE

FILE P.I. #0002861
NHS00-0002-00(861)
Camden County
SR 40 Improvements

OFFICE Design Policy & Support

DATE 11/15/2010

FROM  for Brent Story, State Design Policy Engineer

TO SEE DISTRIBUTION

SUBJECT APPROVED REVISED CONCEPT REPORT

Attached is the approved Revised Concept Report for the above subject project.

Attachment

DISTRIBUTION:

Genetha Rice-Singleton, Program Control Administrator
Ron Wishon, State Project Review Engineer
Glenn Bowman, State Environmental Administrator
Ken Thompson, Statewide Location Bureau Chief
Michael Henry, Systems & Classification Branch Chief
Kathy Zahul, State Traffic Engineer
Angela Alexander, State Transportation Planning Administrator
Bobby Hilliard, State Program Delivery Engineer
Angela Robinson, Financial Management Administrator
Jeff Baker, State Utilities Engineer
Karon Ivery, District Utilities Engineer
Brad Saxon, District Preconstruction Engineer
Glenn Durrence, District Engineer
Dennis Odom, Project Manager
BOARD MEMBER - 1st Congressional District

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

REVISED PROJECT CONCEPT REPORT

Project Number: NHS00-0002-00(861)

County: Camden

P. I. Number: 0002861

Federal Route Number: N/A

State Route Number: S.R. 40

Date: July 20, 2010

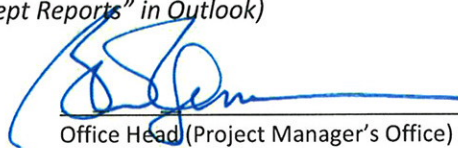
The proposed changes to the approved concept dated on January 18, 2008 are as follows:

1) The side road **alignment** will be revised to maintain the current 45 degree angle alignment of North and South Grove Boulevard. 2) **Project termini** will be increased to add a tangent run-out length before the curve with tapers to transition traffic and improve the operation of traffic at the beginning of the project and improve the existing cross slope / super-elevation at the end of the project. 3) The **typical section** footprint will be reduced to show 11' inside travel lanes, 10' urban shoulders, 4' bike lanes, removal of the 6' widening on the right and the removal of the future 20' raised median. 4) **Access control** of East Williams Street will be prohibited and a cul-de-sac added. All these changes were due to V.E. Study Recommendations, Design Variance and Exception.

Submitted for approval: (Submit to "Concept Reports" in Outlook)

DATE

7-26-10


Office Head (Project Manager's Office)

DATE


7-23-10


Project Manager

Recommendation for approval:

DATE

8/30/10


State Environmental Administrator

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Program (RTP) and/or the State Transportation Improvement Program (STIP).

DATE

9/7/10


State Transportation Planning Administrator

* RECOMMENDATION ON FILE

Need and Purpose: Revised

Background

State Route (SR) 40 is a major east-west corridor in southeast Georgia, connecting Folkston on the west with Kingsland, Interstate 95, and St. Mary's on the east. The SR 40 Corridor is identified as part of the Governor's Road Improvement Program (GRIP), and it is a designated hurricane evacuation route. Under the GRIP program, roadway widening and/or improvements are either completed or under construction along 13 miles (45 percent) of the SR 40 GRIP corridor. The limits of the proposed project were extended in the early 1980's.

Traffic Data

Existing year traffic (2008) ranges from 15,000 vehicles per day (VPD) to 21,000 VPD with level of service (LOS) ranging from A to B. The design year 2015 traffic volumes within the project limits range from 25,000 to 30,000 VPD and have an LOS that ranges from B to C. The projected 2035 traffic is expected to increase to a range of 37,000 to 47,000 VPD, within the project limits and have an expected LOS ranging from C to D without the proposed improvements. An aggressive yearly growth rate of 3% was used to determine the projected traffic in which the rate takes into account the proposed residential developments planned within the project area.

Currently all intersections/ driveways within the project limits are operating at a LOS C or better with the majority operating at LOS A. Assuming a 3% yearly growth rate occurs, in 2035 all intersections/driveways will operate at LOS D or worse for no-build conditions. There is a high truck volume within the project area of approximately 20% which is due to the industrial/commercial businesses and close proximity to I-95. This contributes to the high turning movements from the through travel lanes which affect the operations of the intersection. Operational improvements are needed from Grove Blvd. to Truss Plant Rd.

Land Use

The City of Kingsland is Georgia's 7th largest city by land mass. The land use in the city of Kingsland within the project limits is primarily a mixed use of industrial, commercial and residential developments. There are additional planned residential developments in the project area.

Crash Data

An analysis of the most current available crash data (years 2006, 2007 and 2008) showed that the majority of the crashes occurring within the project limits were both angle and rear end collisions which involved at least one of the vehicles maneuvering a turn. The crash, injury and fatality rates for all three years, with the exception of 2006, were under the statewide averages. In 2006 the crash and injury rates were both over the statewide average. Although the next two years fell below the statewide averages, the nature of the collisions indicates an operational deficiency.

SR 40	2006		2007		2008	
	SR 40	State	SR 40	State	SR 40	State
Crash Rate	324	81	161	543	241	536
Injury Rate	125	24	94	127	107	111
Fatality Rate	0.00	0.32	0.00	1.38	0.00	1.33

Projects in the Area

The following project is located within the area:

- PI # 511072 – Widening I-95 from Florida line to Harriett's Bluff Rd

Logical Termini/ Need and Purpose

Without operational improvements the majority of the intersections/driveways within the project limits will operate at less than favorable conditions of LOS D or worse for no-build conditions. The need for operational improvements begins at Grove Blvd. and ends at Truss Plant Road where an existing raised median begins.

Project location: The project proposes to rehabilitate the existing roadway from Mile Post 13.77 to Mile Post 13.85. The remaining portion is to widen the existing section between Mile Point 13.85 and Mile Point 15.00 in Camden County.

Description of the approved concept: The existing section on SR 40/E Kings Ave is a four lane undivided section. The proposed project proposes to rehabilitate the existing roadway from Mile

Post 13.77 to Mile Post 13.85. The remaining portion is to widen the existing section between Mile Point 13.85 and Mile Point 15.00 in Camden County to a four lane divided urban section with a 14 foot two-way left turn lane. Five foot sidewalks are also proposed on both sides of the road. The side streets at the intersection of North and South Grove Blvd will be realigned to Improve the geometrics. The project will be designed to incorporate a future 20 foot raised median. The total project length is 1.23 miles.

PDP Classification: Major X Minor

Federal Oversight: Full Oversight (), Exempt (X), State Funded (), or Other ()

Functional Classification: Principal Arterial / Urban

U. S. Route Number(s): N/A

State Route Number(s): S.R 40

Traffic (AADT) as shown in the approved concept:

Base Year: 16,250 (2015)

Design Year: 24,150 (2035)

Updated traffic data (AADT):

Base Year: Design Year:

The approved concept traffic was last updated in 2008; updated traffic data has not been requested.

Approved Programmed/Schedule:

P.E. 8/15/2005

R/W: 2012 / 2013

Construction: 2017

VE Study Required Yes (X) VE Study held June 9-12, 2009. No ()

Benefit/Cost Ratio 0.51

Is the project located in an Ozone Non-attainment area? Yes () No (X)

Is the project in a PM2.5 Non-Attainment area? Yes () No (X)

Approved Features: Revised Alignment: The proposed project alignment proposes to realign N. & S. Grove Blvd. at 90 degrees using two reverse curves with a straight tangent through the intersection. The intersection of S.R. 40 / East King Ave. and N. & S. Grove Blvd will be signalized with	Proposed Features: Revised Alignment: The proposed alignment will connect and shift the alignments of both N. & S. Grove Blvd. at a 45 degree angle through the intersection of S.R. 40.
--	---

<p>a traffic signal for intersection traffic. Plus a “NO RIGHT TURN ON RED” sign will be installed as mitigation for the substandard 45 degree intersection angle for S.R. 40 eastbound.</p> <ul style="list-style-type: none">▪ Project Termini: The current project termini are from MP 13.77 to MP 15.00. This length will be lengthened to add a tangent runout length before the curve, tapers to transition traffic and improve the operation of traffic at the beginning of the project and improve the existing cross slope / superelevation at the end of the project.▪ Typical Section: The current typical consists of widening to an urban 5-lane 14’ flush median typical that incorporates a future 20’ raised median with 16’ urban shoulders.▪ Access Control: Currently East Williams Street intersects South Grove Blvd. at S.R. 40 at a skew angle and allows traffic left turn movement.	<p>Project Termini: The proposed project will be extended from MP 13.77 to MP 13.60 at the beginning of the project and from MP 15.00 to MP 15.04 at the end of the project. The proposed extensions will be 876.48 feet at the beginning and 227.04 feet at the end of the project. The approximate proposed extension length is 1,103.52 feet. The total project length will be 1.439 miles.</p> <p>Typical Section: The typical will be revised to provide an urban 5-lane section with two 11’ inside lanes, two 12’ outside lanes and a 14’ flush median typical that eliminates the 6’ for the future 20’ raised median and narrows the urban shoulders to 10 feet. The 12’ flush median recommended by the V.E. Study was not approved by the Chief Engineer in the Approved Design Variance dated 11-03-09. The current posted speed is 45 mph. An additional 4’ paved section on each side will be required to accommodate bicyclists. This segment of roadway is on the Camden County Bicycle and Pedestrian Plan. This segment is an integral part of a larger planned bicycle network in the Kingsland area.</p> <p>Access Control: The proposed design realigns and shifts North & South Grove Boulevard. As a result, E. Williams St. will be cul-de-sac at the S. Grove Blvd end; therefore, left and right</p>
---	--

	turn movement will be prohibited.
Reason for Change: “Implementation of Value Engineering Study Alternatives” and approved Design Variance and Exception. See attached.	

Potential Environmental Impacts of Proposed Revision:

The proposed revisions will reduce the impacts to residential and commercial property narrowing the footprint of the project. Based on draft recommendations, no archaeological sites or no eligible historic properties will not have an impact on the increased project length. Also, there would be minimal impact, if any wetland impacts or ecology to avoid longitudinal stream encroachment in the project extension as the existing footprint is sufficient. Plus, the approved design variance and exception changes should have only minimal effect, if any on environmental or project schedule.

Have Proposed Revisions Been Reviewed by Environmental Staff? (X) Yes () No

Environmental Responsibilities (Studies/Documents/Permits): (e.g. Consultant, GDOT, etc.)

Ecological Solutions is responsible for the NEPA documentation.

Updated Cost Estimate	
Base Construction Cost	\$3,798,416.03
Engineering and Inspection	\$189,920.80
Fuel & Asphalt Adjustment	\$949,536.32
<u>Total Construction Cost</u>	<u>\$4,937,873.15</u>
Right-of-Way	\$6,207,000.00
Utilities (reimbursable)	\$0.00
Utility Contingencies	\$0.00
Environmental Mitigation	\$0.00


Recommendation: Recommend that the proposed revision to the concept be approved for implementation.

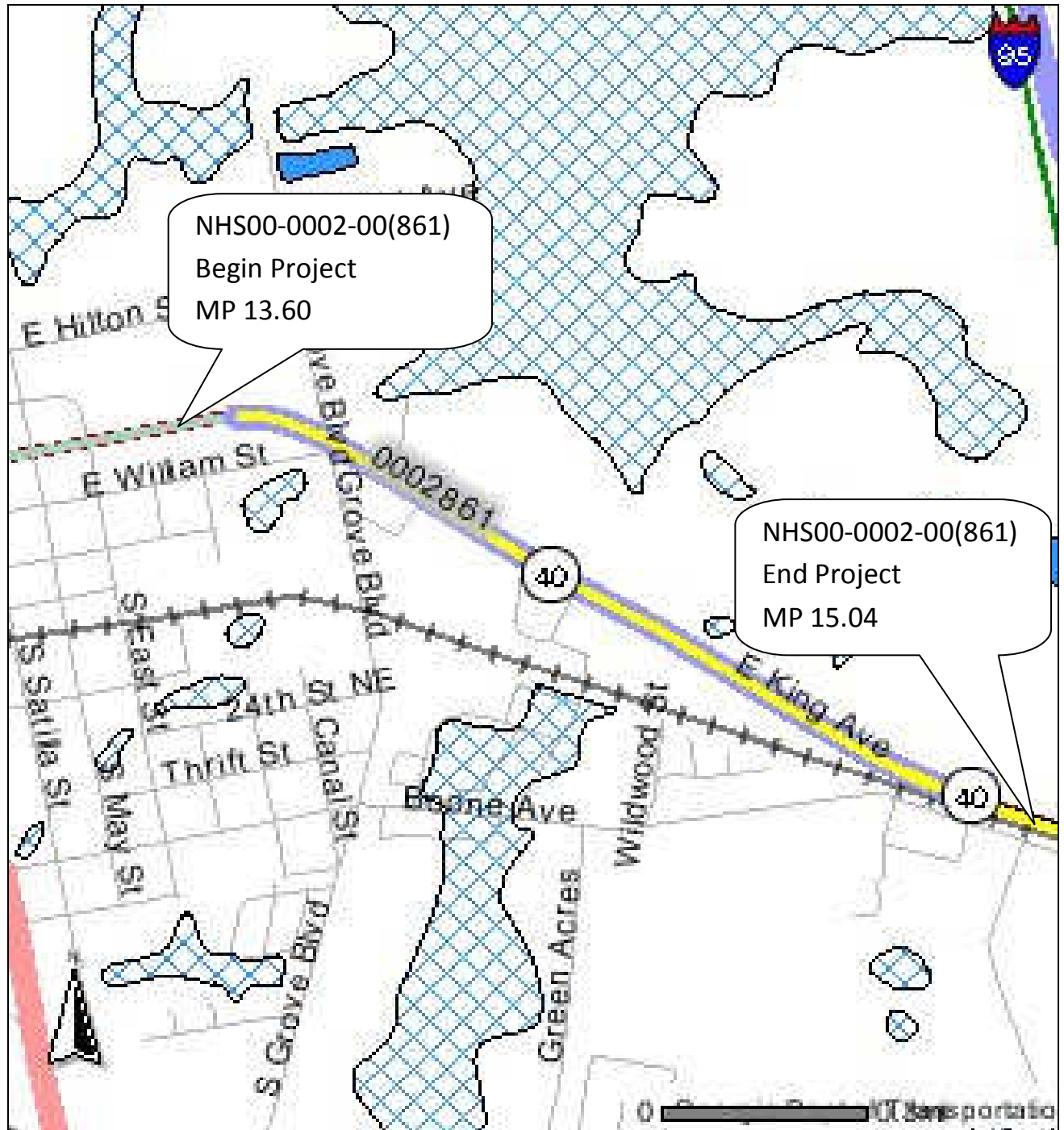
Attachments:

1. Sketch Map
2. Typical Section
3. Cost Estimate
4. Estimates
5. Other Supporting Documents (Approved Design Variance and Exception, Value Engineering Study Alternatives.

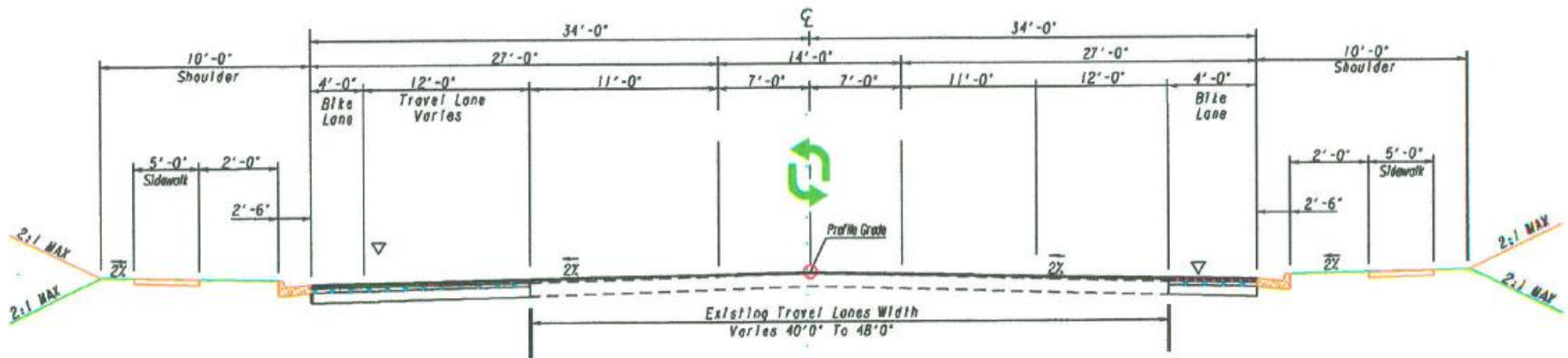
Exempt projects

Concur: 
Director of Engineering

Approve:  Date: 11-9-10
Chief Engineer



TYPICAL SECTION I



TANGENT SECTION
S.R. 40 / EAST KING STREET
Urban 4-Lane w / 12' Flush Median
With Bike Lanes
2 to 4 Symmetrical
Tangent

▽ PAY LIMITS FOR GRADED AGGREGATE BASE

PI# 0002861 Camden County
NHS00-0002-00(861)
SR 40 Improvements

DATE : 10/08/2010

DESCRIPTION: CONCEPT ESTIMATE FOR S.R. 40 / EAST KING AVENUE WIDENING & RECONSTRUCTION

LINE	ITEM	ALT	UNITS	DESCRIPTION	QUANTITY	PRICE	AMOUNT
0005	150-1000	LS		TRAFFIC CONTROL - NHS00-0002-00(861)	1.000	70000.00	70000.00
0010	153-1300	EA		FIELD ENGINEERS OFFICE TP 3	1.000	51792.97	51792.97
0015	207-0203	CY		FOUND BKFILL MATL, TP II	1540.000	41.86	64467.43
0020	210-0100	LS		GRADING COMPLETE - NHS00-0002-00(861)	1.000	370000.00	370000.00
0025	310-5100	SY		GR AGGR BS CRS 10IN INCL MATL	9365.000	14.92	139788.26
0030	318-3000	TN		AGGR SURF CRS	200.000	22.01	4402.46
0035	402-1812	TN		RECYL AC LEVELING,INC BM&HL	12100.000	69.56	841781.03
0040	402-3130	TN		RECYL AC 12.5MM SP,GP2,BM&HL	5908.000	64.20	379323.02
0045	402-3190	TN		RECYL AC 19 MM SP,GP 1 OR 2 ,INC BM & HL	1882.000	68.83	129544.46
0050	402-3121	TN		RECYL AC 25MM SP,GP1/2,BM & HL	3763.000	65.16	245208.33
0055	413-1000	GL		BITUM TACK COAT	4660.000	2.50	11673.39
0060	432-0206	SY		MILL ASPH CONC PVMT/ 1.50" DEP	7750.000	1.96	15231.31
0065	441-6022	LF		CONC CURB & GUTTER, 6"X30"TP2	13770.000	16.59	228500.21
0070	441-0104	SY		CONC SIDEWALK, 4 IN	8035.000	26.19	210466.62
0075	441-4020	SY		CONC VALLEY GUTTER, 6 IN	1110.000	34.68	38494.80
0080	446-2118	LF		HIGH STR PVMT REINF FABRIC, 18 IN WIDTH	15000.000	2.99	44920.50
0085	500-9999	CY		CL B CONC,BASE OR PVMT WIDEN	80.000	165.79	13263.40
0090	573-2006	LF		UNDDR PIPE INCL DRAIN AGGR 6"	100.000	16.36	1636.50

TOTAL	2,860,494.69
--------------	---------------------

DRAINAGE ITEMS FOR JOB 0002861

LINE	ITEM	ALT	UNITS	DESCRIPTION	QUANTITY	PRICE	AMOUNT
0095	550-1180		LF	STM DR PIPE 18",H 1-10	2920.000	28.54	83355.69
0100	550-1240		LF	STM DR PIPE 24",H 1-10	2120.000	31.14	66022.40
0105	550-1300		LF	STM DR PIPE 30",H 1-10	1648.000	40.46	66694.21
0110	550-1360		LF	STM DR PIPE 36",H 1-10	2028.000	47.05	95431.19
0115	550-1420		LF	STM DR PIPE 42",H 1-10	76.000	70.30	5343.18
0120	550-1480		LF	STM DR PIPE 48",H 1-10	24.000	79.55	1909.31
0125	550-2180		LF	SIDE DR PIPE 18",H 1-10	260.000	26.34	6848.90
0130	550-3518		EA	SAFETY END SECTION 18",STD,6:1	10.000	630.54	6305.47
0135	550-3536		EA	SAFETY END SECTION 36",STD,6:1	1.000	1802.01	1802.01
0140	550-3542		EA	SAFETY END SECTION 42",STD,6:1	1.000	2131.33	2131.33
0145	550-3548		EA	SAFETY END SECTION 48",STD,6:1	1.000	2650.00	2650.00
0150	668-1100		EA	CATCH BASIN, GP 1	66.000	2207.60	145702.13
0155	668-1200		EA	CATCH BASIN, GP 2	2.000	4508.51	9017.03
TOTAL							493,212.85

TEMPORARY EROSION CONTROL ITEMS FOR JOB 0002861

LINE	ITEM	ALT	UNITS	DESCRIPTION	QUANTITY	PRICE	AMOUNT
0110	163-0232	AC		TEMPORARY GRASSING	12.000	87.43	1049.26
0140	163-0240	TN		MULCH	210.000	180.87	37984.01
0115	163-0300	EA		CONSTRUCTION EXIT	6.000	1491.36	8948.19
0145	163-0520	LF		CONSTR AND REMOVE TEMP PIPE SLOPE DRAIN	730.000	12.74	9305.76
0130	167-1000	EA		WATER QUALITY MONITORING AND SAMPLING	2.000	232.05	464.10
0135	167-1500	MO		WATER QUALITY INSPECTIONS	18.000	942.31	16961.70
0150	171-0010	LF		TEMPORARY SILT FENCE, TYPE A	19100.000	1.54	29525.93
0165	171-0030	LF		TEMPORARY SILT FENCE, TYPE C	1000.000	3.64	3648.44
							107,887.39

PERMANENT EROSION CONTROL ITEMS FOR JOB 0002861

LINE ITEM	ALT	UNITS	DESCRIPTION	QUANTITY	PRICE	AMOUNT
0170 603-2180	SY		STN DUMPED RIP RAP, TP 3, 12"	24.000	50.21	1205.08
0175 603-7000	SY		PLASTIC FILTER FABRIC	24.000	4.73	113.65
0180 700-6910	AC		PERMANENT GRASSING	12.000	1017.74	12212.88
0185 700-7000	TN		AGRICULTURAL LIME	13.000	49.47	643.22
0190 700-7010	GL		LIQUID LIME	33.000	13.15	434.10
0195 700-8000	TN		FERTILIZER MIXED GRADE	24.000	445.23	10685.63
0200 700-8100	LB		FERTILIZER NITROGEN CONTENT	660.000	2.63	1740.58
0205 716-2000	SY		EROSION CONTROL MATS, SLOPES	200.000	1.34	268.67
0210 715-2100	SY		BITUM TRTD ROVING, SLOPES	840.000	1.80	1512.00
0215 715-2200	SY		BITUM TRTD ROVING, WATERWAYS	24165.000	1.79	43255.35
						72,071.16

MAINTENANCE OF EROSION CONTROL ITEMS FOR JOB 0002861

LINE ITEM	ALT	UNITS	DESCRIPTION	QUANTITY	PRICE	AMOUNT
0155 165-0010	LF		MAINT OF TEMP SILT FENCE, TP A	9550.000	0.50	4835.93
0160 165-0030	LF		MAINT OF TEMP SILT FENCE, TP C	500.000	0.86	434.53
0120 165-0101	EA		MAINT OF CONST EXIT	12.000	375.78	4509.47
						9,779.93

SIGNING AND MARKING ITEMS FOR JOB 0002861

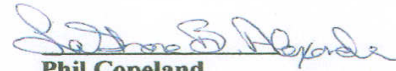
LINE ITEM	ALT	UNITS	DESCRIPTION	QUANTITY	PRICE	AMOUNT
0285 634-1200	EA		RIGHT OF WAY MARKERS	57.000	91.54	5218.24
0290 636-1020	SF		HWY SGN,TP1MAT,REFL SH TP3	172.000	12.79	2201.14
0295 636-1033	SF		HWY SIGNS, TP1MAT,REFL SH TP 9	159.000	17.82	2833.42
0300 636-2070	LF		GALV STEEL POSTS, TP 7	620.000	6.57	4075.92
0305 652-0091	EA		PVMT MARKING, SYMBOL, TP 1	10.000	39.00	390.00
0310 652-0094	EA		PVMT MARKING, SYMBOL, TP 4	10.000	43.24	432.40
0315 652-5451	LF		SOLID TRAF STRIPE, 5 IN, WHITE	14000.000	0.15	2100.00
0320 653-0120	EA		THERM PVMT MARK, ARROW, TP 2	53.295	68.30	3640.05
0325 653-1501	LF		THERMO SOLID TRAF ST 5 IN, WHI	14000.000	0.31	4340.00
0330 653-1502	LF		THERMO SOLID TRAF ST, 5 IN YEL	14000.000	0.32	4480.00
0335 653-1704	LF		THERM SOLID TRAF STRIPE,24",WH	240.000	3.62	868.80
0340 653-3501	GLF		THERMO SKIP TRAF ST, 5 IN, WHI	38500.000	0.16	6160.00
0345 653-6006	SY		THERM TRAF STRIPING, YELLOW	1067.670	2.80	3000.00
0350 654-1002	EA		RAISED PVMT MARKERS TP 2	350.000	2.71	950.04
						40,690.01

SIGNAL ITEMS FOR JOB 0002861

LINE ITEM	ALT	UNITS	DESCRIPTION	QUANTITY	PRICE	AMOUNT
0170 647-1000	LS		TRAF SIGNAL INSTALLATION NO - NHS00-0002-00(861)	1.000	110865.00	110865.00
0175 647-1000	LS		TRAF SIGNAL INSTALLATION NO - NHS00-0002-00(861)	1.000	103415.00	103415.00
						214280.00

<hr/>	
ITEM TOTAL	3798416.03
INFLATED ITEM TOTAL	3798416.03
TOTALS FOR JOB 0002861	
<hr/>	
ESTIMATED COST:	3798416.03
ENGINEERING AND INSPECTION (5.0):	189920.80
FUEL AND ASPHALT ADJUSTMENTS	949536.32
<hr/>	
ESTIMATED TOTAL:	4937873.15

Preliminary Right of Way Cost Estimate



Phil Copeland
Right of Way Administrator
By: LaShone Alexander

Date: February 4, 2010

Project: NHS-002-00(861) Camden **UPDATED**

P.L. Number: 0002861

Existing/Required R/W: Varies/Varies

No. Parcels: 26

Project Termini : SR 40 FM W. OF CS 481 / GROVE BLVD TO E. OF PR 718 / TRUSS PLANT

Project Description: Widening existing four lanes to include a 14 foot center turn lane with five foot sidewalks

Land: Commercial R/W: 172,236 sf @ \$ 10/sf	\$	1,722,360
Residential R/W: 36,634 sf @ \$ 1.50/sf	\$	54,951
Improvements : business buildings, misc. site improvements		625,250
Relocation: Commercial (2) @ \$ 25,000		
Residential (0) @ \$ 0		50,000
Damage : Proximity(0)	\$	000
Consequential (0)		50,000
Cost to Cure (0)		<u>000</u>
		50,000
Net Cost	\$	2,502,561

Net Cost	\$	2,502,561
Scheduling Contingency 55 %		1,376,408
Adm/Court Cost 60 %		<u>2,327,381</u>
	\$	6,206,351

Total Cost \$6,207,000

Note: The Market Appreciation (40%) is not included in the updated Preliminary Cost Estimate.

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE NHS-002-00(861) Camden County
P.I. No. 0002861

OFFICE Jesup
DATE March 18, 2010

FROM Karon Ivery
District Utilities Engineer

TO Dennis Odom
District Design Engineer

ATTN Cassius Edwards

SUBJECT REVISED PRELIMINARY UTILITY COST (ESTIMATE)

As requested by your office, we are furnishing you with a Preliminary Utility Cost estimates for each utility with facilities potentially located within the project limits.

FACILITY OWNER	NON- REIMBURSABLE	REIMBURSABLE
Camden Telephone / TDS	\$79,800.00	\$0.00
*City Of Kingsland (Water)	\$462,840.00	\$0.00
*City Of Kingsland (Sewer)	\$38,062.50	\$0.00
Kingsland Cable TV	\$42,000.00	\$0.00
Georgia Power Co. (Dist.)	\$220,500.00	\$0.00
Georgia Power Co. (Trans)	\$0.00	\$0.00
Atlanta Gas Light	\$0.00	\$0.00
Totals	\$843,202.50	\$0.00
30% Utility Contingency		\$0.00
Total Reimbursement Cost:		\$0.00

Total Preliminary Utility Cost Estimate \$843,202.50
Total reimbursable cost for the above project is \$0.00

*The reimbursable amount could increase to **\$651,173.25** if the City of Kingsland were to apply for utility assistance for the relocation of their facilities

If you have any questions, please contact Paul Williams at (912)427-5779.

KLI/pow

C: Jeff Baker, State Utilities Engineer;
Angela Whitworth, Office of Financial Management;
Brian Scarbrough, Area Engineer - Construction
File

P.I. Number 0002861
 Project Number NHS000-0002-00(861)

County Camden

Date 10/14/2010

Special Provision, Section 109-Measurement and Payment
FUEL PRICE ADJUSTMENT (ENGLISH 125% MAX)

ENTER FPL DIESEL	2.933
ENTER FPM DIESEL	6.599

ENTER FPL UNLEADED	2.62
ENTER FPM UNLEADED	5.895

<http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltecementindex.aspx>

INCREASE ADJUSTMENT
125.00%

INCREASE ADJUSTMENT
125.00%

ROADWAY ITEMS	QUANTITY	DIESEL FACTOR	GALLONS DIESEL	UNLEADED FACTOR	GALLONS UNLEADED	REMARKS
Excavations paid as specified by Sections 205 (CUBIC YARD)	1540.000	0.29	446.60	0.15	231.00	
Excavations paid as specified by Sections 206 (CUBIC YARD)		0.29		0.15		
GAB paid as specified by the ton under Section 310 (TON)	9365.000	0.29	2715.85	0.24	2247.60	
Hot Mix Asphalt paid as specified by the ton under Sections 400 (TON)		2.90		0.71		
Hot Mix Asphalt paid as specified by the ton under Sections 402 (TON)	23653.000	2.90	68593.70	0.71	16793.63	
PCC Pavement paid as specified by the square yard under Section 430 (SY)		0.25		0.20		

BRIDGE ITEMS	Quantity	Unit Price	QF/1000	Diesel Factor	Gallons Diesel	Unleaded Factor	Gallons Unleaded	REMARKS
Bridge Excavation (CY) Section 211				8.00		1.50		
Class __ Concrete (CY) Section 500				8.00		1.50		
Class __ Concrete (CY) Section 500				8.00		1.50		
Class __ Concrete (CY) Section 500				8.00		1.50		
Superstru Con Class__(CY) Section 500				8.00		1.50		
Superstru Con Class__(CY) Section 500				8.00		1.50		
Superstru Con Class__(CY) Section 500				8.00		1.50		
Concrete Handrail (LF) Section 500				8.00		1.50		
Concrete Barrier (LF) Section 500				8.00		1.50		

BRIDGE ITEMS	Quantity	Unit Price	QF/1000	Diesel Factor	Gallons Diesel	Unleaded Factor	Gallons Unleaded	REMARKS
Stru Steel Plan Quantity (LB) Section 501				8.00		1.50		
Stru Steel Plan Quantity (LB) Section 501				8.00		1.50		
PSC Beams____ (LF) Section 507				8.00		1.50		
PSC Beams____ (LF) Section 507				8.00		1.50		
PSC Beams____ (LF) Section 507				8.00		1.50		
Stru Reinf Plan Quantity(LB) Section 511				8.00		1.50		
Stru Reinf Plan Quantity(LB) Section 511				8.00		1.50		
Bar Reinf Steel (LB) Section 511				8.00		1.50		
Piling____ inch (LF) Section 520				8.00		1.50		
Piling____ inch (LF) Section 520				8.00		1.50		
Piling____ inch (LF) Section 520				8.00		1.50		
Piling____ inch (LF) Section 520				8.00		1.50		
Piling____ inch (LF) Section 520				8.00		1.50		
Piling____ inch (LF) Section 520				8.00		1.50		
Drilled Caisson____ (LF) Section 524				8.00		1.50		
Drilled Caisson____ (LF) Section 524				8.00		1.50		
Drilled Caisson____ (LF) Section 524				8.00		1.50		
Pile Encasement____(LF) Section 547				8.00		1.50		
Pile Encasement____(LF) Section 547				8.00		1.50		
SUM QF DIESEL=				71756.15	SUM QF UNLEADED=		19272.23	
DIESEL PRICE ADJUSTMENT(\$)					\$242,029.91			
UNLEADED PRICE ADJUSTMENT(\$)					\$58,067.23			

APPLICABLE TO CONTRACTS/PROJECTS CONTAINING THE 413 SPECIFICATION, SECTION 413.5.01 ADJUSTMENTS
ASPHALT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT

ENTER APL 450 ENTER APM 1012.5

INCREASE ADJUSTMENT

TMT = 20.0152

\$10,808.19

ENTER APL	450	ENTER APM	1012.5
-----------	-----	-----------	--------

INCREASE ADJUSTMENT

TMT =	1182.65
-------	---------

\$638,631.00

ASPHALT CEMENT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT(Surface Treatment 125% MAX)

APPLICABLE TO CONTRACTS CONTAINING THE 413 SPEC. SECTION 413.5.01 ADJUSTMENTS ASPHALT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT

<http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx>

ENTER APL

ENTER APM

125.00%

INCREASE ADJUSTMENT

Use this side for Asphalt Emulsion Only

L.I.N.	TYPE	ASPHALT EMULSION (GALLONS)

TMT =

REMARKS:

Use this side for Asphalt Cement Only

L.I.N.	TYPE	TACK (GALLONS)

TMT =

REMARKS:

MONTHLY PRICE ADJUSTMENT(\$)

ADJUSTMENT SUMMARY

FUEL PRICE ADJUSTMENT (ENGLISH 125% MAX)

DIESEL PRICE ADJUSTMENT(\$)

\$242,029.91

UNLEADED PRICE ADJUSTMENT(\$)

\$58,067.23

ASPHALT CEMENT PRICE ADJUSTMENT (BITUMINOUS TACK COAT 125% MAX)

\$10,808.19

400 / 402 ASPHALT CEMENT PRICE ADJUSTMENT 125% MAX

\$638,631.00

ASPHALT CEMENT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT(Surface Treatment 125% MAX)

REMARKS:

TOTAL ADJUSTMENTS

\$949,536.32

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

PROJECT NHS00-0002-00(861) Camden County **OFFICE** Jesup, Design
Widen S.R. 40 from West of Grove Blvd. to East of Truss Plant Rd.
P. I. No. 0002861 **DATE** 12/22/2009

FROM Glenn W. Durrence, P.E., District Engineer (RWT)

TO Brent Story, P.E., State Design Policy Engineer

SUBJECT Design Variance Request - Revised

Approval of a Design Variance is requested for the above referenced project.

The existing section on SR 40/E Kings Ave is a four lane undivided section. The design project proposes to rehabilitate the existing roadway from Mile Post 13.65 to Mile Post 13.85. The remaining portion is to widen the existing section between Mile Post 13.85 and Mile Post 15.08 in Camden County to a four lane divided urban section with a 14 ft. two-way left turn lane and a design speed of 45 mph. Five foot sidewalks are also proposed on both sides of the road. The side streets at the intersection of North and South Grove Boulevard will be realigned to improve the geometrics and a traffic signal will be installed. Also, the project will incorporate 4 feet bicycle lanes on each side of the roadway. The total project length is 1.43 miles.

→ The average annual daily traffic (AADT) on S.R. 40 / East King Avenue is projected to be 11,840 in 2008, 16,250 in 2015 and 24,150 in 2035. The project is designed for 7% 24-hour truck volume. Year 2006 average daily traffic within the project limits is 11,000 vehicles per day (VPD). The collisions data for years 2000 – 2008 indicate a high rate of angle and rear end crashes. Accident history within the project limits identifies 325 vehicle accidents occurring between 2000 and 2008. Of the 325 accidents, 153 of the accidents were rear end collisions, 104 were angle collisions, 39 sideswipe collisions, 12 were head on collisions and 17 collisions were other types of collisions. Of the 39 sideswipe collisions, 8 occurred between milepost 13.73 and milepost 13.93 at the intersection of S.R. 40 and N. & S. Grove Boulevard, 7 between milepost 14.08 and milepost 14.80 and 24 between milepost 15.05 and milepost 15.06 at the divided median. Of the 12 head-on collisions, 4 were between milepost 13.92 to milepost 13.94 at the intersection of S.R. 40 and N. & S. Grove Boulevard, 6 between milepost 14.03 to milepost 14.85 and 2 at milepost 15.06 at the divided median. None of these accidents had a direct correlation with the shoulder width of the roadway or the current 12' travel lanes. The reduction in travel lane width may increase the likelihood of sideswipes between adjacent travel lanes; but, the creation of a center turn lane and the separation of opposing traffic should affect this increase. Plus, there are no major traffic generators in the area to warrant the installation of a raised median. Also, the current AADT does not warrant the installation of a raised median. Improving SR 40 to a multi-lane facility with a separate turning lane will remove turning conflicts by providing refuge from the through traffic and should increase safety.

The requested design variances are for the reductions of the widths of urban shoulders, inside travel lanes, and the two-way left turn lane. The design variances would significantly reduce right of way costs and reduce the impacts to both commercial and residential properties. The request is a result of

Base year: Range from 25000 to 32500 for majority of proj.
Traffic diagrams show → Design year: Range from 37150 to 48300
(See yellow tagged sheet)

recommendations set forth in the VE Study dated June 24, 2009. Also, attached are a typical section, accident data, traffic diagram, cost estimates and a layout sketch for review of the above design variances.

No additional safety enhancement features or mitigation would be proposed to lessen the impact if these variances are approved.

11-foot Lane Width

The GDOT Design Policy Manual Table 6.5, for urban arterial roadways, requires a lane width of 12 feet. It is requested to reduce the two inside travel lanes to 11 feet throughout the project limits on S.R. 40 / East King Avenue to reduce right of way, commercial and residential property impacts.

Item	Original Cost	Revised Cost	Cost Savings
Right-of-Way	\$11,537,350.00	\$10,764,031.00	\$773,319.00
Grading Complete	\$673,873.00	\$643,097.00	\$30,776.00
Asphalt	\$1,438,152.00	\$1,429,273.00	\$8,879.00
GAB	\$302,680.00	\$295,983.00	\$6,697.00
Total Savings			\$819,671.00

RECOMMENDED BY:

James B. Buh
Director of Engineering

DATE

1/5/10

APPROVED BY:

Deon R
Chief Engineer

DATE

1/13/10

12-foot Two-Way Left Turn Flush Median

The GDOT Design Policy Manual Table 6.5, for urban arterial roadways, requires a two-way left turn flush median width of 14 feet. It is requested to reduce the 14' wide two-way left turn flush median to 12' wide. This reduction would be throughout the project limits on S.R. 40 / East King Avenue and would reduce right of way, commercial and residential property impacts and would narrow the footprint of the project.

Item	Original Cost	Revised Cost	Cost Savings
Right-of-Way	\$11,537,350.00	\$10,764,031.00	\$773,319.00
Grading Complete	\$673,873.00	\$643,097.00	\$30,776.00
Asphalt	\$1,438,152.00	\$1,429,273.00	\$8,879.00
GAB	\$302,680.00	\$295,983.00	\$6,697.00
Total Savings			\$819,671.00

RECOMMENDED BY:

Director of Engineering

DATE

APPROVED BY:

Chief Engineer

DATE

10-foot Urban Shoulder Width

According to the GDOT Design Policy Manual Table 6.5, for urban arterial roadways, a shoulder width of 16' is required. The Value Engineering Study recommended a 12' urban shoulder be implemented throughout the project limits on S.R. 40 / East King Avenue. However, the District Office requests that 10' urban shoulders be installed. The 10' urban shoulder would still provide enough room for sidewalk to go around a dust pan type drive and still be ADA satisfied. This project is located in a commercial area that includes numerous businesses. On the east end of the project, the roadway runs parallel to the Saint Mary's Railroad and right of way is limited on the right side of the roadway. A reduction in the required shoulder width could potentially save parking spaces at the numerous businesses and on several other commercial properties. Plus, the reduction of the shoulder would possibly eliminate the removal and relocation of a water line in front of the fire station. This reduction will not have an impact on utility placement. There will be ample room for utilities between the toe of the slope and the right-of-way. Also, there are three residential properties located on S.R. 40 / East King Avenue that would be affected. The proposed plans will widen the existing edge of pavement on both sides of the roadway with 4' bike lanes, but installing 16' shoulders to each side of the roadway would result in impacts to right of way, businesses, commercial and residential properties. Using a 10' shoulder instead of the VE Study recommended 12' shoulder, or the GDOT Design Policy Manual 16' shoulder, will result in saving right of way and have less impact to commercial and residential properties. The table below shows the total savings for the 10 foot shoulder.

Item	Original Cost	Revised Cost	Cost Savings
Right-of-Way	\$11,537,350.00	\$6,897,433.00	\$4,639,917.00
Grading Complete	\$673,873.00	\$489,216.00	\$184,658.00
Asphalt	\$1,438,152.00	\$1,402,635.00	\$35,517.00
GAB	\$302,680.00	\$275,893.00	\$26,787.00
Total Savings			\$4,886,879.00

Similarly, for comparison, the 12 foot shoulder would result in a total savings of \$3,278,678.00. The cost savings for the 10 foot shoulder versus the 12 foot shoulders is \$1,608,192.00.

RECOMMENDED BY: _____ DATE _____
Director of Engineering

APPROVED BY: _____ DATE _____
Chief Engineer

No Design Variance is required as long as
Urban Shoulder (Border Area) is greater than or
equal to 10-ft wide. *Brent Story. 1/5/09.*

Summary

The reduction of the urban shoulder, two inside travel lanes and the two-way left turn flush median throughout the project corridor would result in a total cost savings of approximately \$6,526,221.00 if all of these items were used by reducing the grading quantities and right-of-way costs as shown in the table below.

Variance Requested	Cost Savings
11-foot Lane Width	\$819,671.00
12-foot Two-Way Left Turn Flush Median	\$819,671.00
10-foot Urban Shoulder Width	\$4,886,879.00
Total Cost Savings	\$6,526,221.00

Based on this information, we are requesting that a variance be approved for use of a reduced shoulder width of 10 ft, reduced lane widths of 11 ft for the two inside travel lanes and a reduced center turn lane width of 12 feet.

If there are any further questions or if any additional information is needed, please contact the Project Manager, Cassius O. Edwards at (912) 427-5717 or e-mail at cedwards@dot.ga.gov

ADO:RYT:COE

Attachments: Preliminary Cost Estimates
Right-of-Way Cost Estimate
Grading Complete Cost Estimates
Typical Section
Traffic Diagrams
Accident Summary
Approved Implementation of VE Study Alternatives

cc: Jesup File
Project File
General File Unit, Atlanta

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

PROJECT	NHS00-0002-00(861) Camden County Widen S.R. 40 from West of Grove Blvd. to East of Truss Plant Rd. P. I. No. 0002861	OFFICE	Jesup, Design
		DATE	11/3/2009
FROM	Glenn W. Durrence, P.E., District Engineer <i>rust</i>		
TO	Ronald E. Wishon, Project Review Engineer		
SUBJECT	Design Exception Request - Revised		

This is to request a design exception for the above referenced project.

The existing roadway section on SR 40/E Kings Ave is a four lane undivided roadway. The project proposes to rehabilitate the existing roadway from Mile Post 13.65 to Mile Post 13.85. The remaining portion is to widen the existing section between Mile Point 13.85 and Mile Post 15.08 in Camden County to a four lane divided urban section with a 14 foot two-way left turn lane. Five foot sidewalks are also proposed on both sides of the road. The side streets at the intersection of North and South Grove Blvd will be realigned to improve the geometrics and install a traffic signal. Also, the project will incorporate 4 ft. bicycle lanes on each side of the roadway. The total project length is 1.43 miles.

The proposed design exception is for retaining the existing horizontal alignment skew angle of 45 degrees at the intersection of S.R. 40/East King Ave. and North & South Grove Boulevard. North & South Grove Blvd. intersects S.R. 40 at Station 26+38.14 / Mile Post 13.96.

The proposed horizontal skew angle does not meet AASHTO Geometrics Design of Highways and Streets (2004), Local Roads and Streets, Intersection Design (page 388 & 400), Collector Roads and Streets, Intersection Design (page 428) that states the intersect/skew angle should not intersect at an angle less than 60 degrees. Also, the GDOT Design Policy Manual, Elements of Design, Angle of Intersection / Skew Angle (page 4-3) requires that "a 70-degree angle shall be the minimum angle for intersections in Georgia". "Although a minimum 60-degree angle may be acceptable, the intersection angle should be close to a 90-degree angle, wherever practical".

The average annual daily traffic (AADT) on S.R. 40 / East King Avenue is projected to be 11,840 in 2008, 16,250 in 2015 and 24,150 in 2035. The project is designed for 7% 24-hour truck volume. Year 2006 average daily traffic within the project limits is 11,000 vehicles per day (VPD). (See Attached Traffic Diagrams)

The collisions data for years 2000 – 2008 indicate a high rate of angle and rear end crashes. Accident history within the project limits identifies 325 vehicle accidents occurring between 2000 and 2008. Of the 325 accidents, 153 of the accidents were rear end collisions, 104 were angle collisions, 39 were sideswipe collisions, 12 were head on collisions and 17 collisions were other types of collisions. Improving SR 40 to a multi-lane facility with a separate turning lane will remove turning conflicts by providing refuge from the through traffic and should increase safety. (See Attached Accident Data).

The intersection of S.R. 40 / East King Avenue and North & South Grove Blvd. will be signalized with a traffic signal for intersection traffic.

To utilize the AASHTO Geometrics Design of Highways and Streets (2004) edition standard of 60 degrees and the GDOT Design Policy Manual standard of 70 degrees would result in the realignment of both North and South Grove Boulevard. If the existing horizontal alignment is retained there would be no impact to the Georgia Times Union Paper Business or the Flash Foods Gas Station. The estimated right of way savings to both properties would be over \$420,000.00 by retaining the existing horizontal alignment.

A "NO RIGHT TURN ON RED" sign will be installed as mitigation for the substandard 45 degree intersection angle for S.R. 40 eastbound.

Alternative one would be to realign both North and South Grove Boulevard. Two 100' reverse curves would have to be placed into the alignment and 2 curves, 3103' and 3562' respectfully to tie back into the existing alignments and widening. This would result in a total estimated 930 more tons of asphalt than retaining the existing horizontal alignments. An extra 1250 square yards of GAB would have to be used to build the new alignment. Another disadvantage of realignment would be the impact to two businesses. The right of way needed would impact both businesses significantly. The estimated cost for this alternate would exceed \$420,000.00.

Alternate 1

Item	Original Cost	Revised Cost	Cost Increase
Right-of-Way	\$6,897,433.00	\$7,321,397.00	\$423,964.00
Grading Complete	\$673,873.00	\$696,709.00	\$22,836.00
Asphalt	\$1,438,152.00	\$1,509,367.00	\$71,215.00
GAB	\$302,680.00	\$347,277.00	\$44,597.00
Total Increase			\$562,612.00

Alternate two would re-align North Grove Blvd. into a Split-T intersection on S.R. 40 & curve South Grove Boulevard into East Williams Avenue. As a result, Howard Street would need to be widened and extended to South Grove Boulevard. This alternate would prohibit traffic from S.R. 40 onto South Grove Blvd. & East Williams Street. Access to the aforementioned streets would be through Howard Street. Widening Howard St. would require additional commercial right-of-way to be purchased and additional construction cost such as asphalt, graded aggregate base course, clearing and grubbing. This widening would impact the house on the right side of Howard Street and drive up right-of-way costs. This alternate would result in a total

estimated 1712 more tons of asphalt and an extra 4150 square yards of graded aggregate base course.

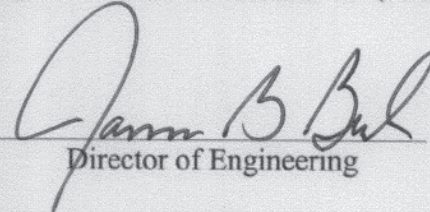
Alternate 2

Item	Original Cost	Revised Cost	Cost Increase
Right-of-Way	\$6,897,433.00	\$7,642,314.00	\$744,881.00
Grading Complete	\$673,873.00	\$765,399.00	\$91,526.00
Asphalt	\$1,438,152.00	\$1,575,087.00	\$136,935.00
GAB	\$302,680.00	\$370,300.00	\$67,620.00
Total Increase			\$1,040,962.00

Based on this information, this is to request that an exception be approved for retaining the existing horizontal alignment skew angle of 45 degrees at the intersection of S.R. 40/East King Ave. and North & South Grove Boulevard.

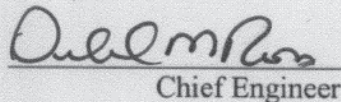
If there are any further questions, or if any additional information is needed please contact the Project Manager, Cassius O. Edwards at (912) 427-5717 or e-mail at cedwards@dot.ga.gov

RECOMMENDED BY:


Director of Engineering

DATE 1/5/10

APPROVED BY:


Chief Engineer

DATE 1/08/10

ADO:RYT:coe

Attachments: VE Study Responses
Implementation of VE Study Alternatives
Preliminary Cost Estimates
Grading Complete Estimates
Accident Summary
Traffic Diagrams
Cover Sheet
Proposed Design
Alternate 1 Design Sketch
Alternate 2 Design Sketch

cc: Project File
General File Unit, Atlanta
Jesup File

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE: NHS00-0002-00(861) Camden
P.I. No.: 0002861
SR 40 Widening and Reconstruction

OFFICE: Engineering Services

DATE: September 1, 2009

FROM: Ronald E. Wishon, Project Review Engineer *REW*

TO: Bradford W. Saxon, PE, District Pre-Construction Engineer, Jesup

SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES

The VE Study for the above project was held June 9-12, 2009. Responses were received on August 28, 2009. Recommendations for implementation of Value Engineering Study Alternatives are indicated in the table below. The Project Manager shall incorporate the VE alternatives recommended for implementation to the extent reasonable in the design of the project.

ALT #	Description	Potential Savings/LCC	Implement	Comments
A-2	Use standard width ROW with slope easement	\$3,400,000	No	Implementation of other recommendations (B-1.2, B-3, B-9, B-13) will reduce the required ROW and render A-2 obsolete.
B-1.1	Use 11 ft through lanes instead of 12 ft	\$872,000	No	This will not be done since B-1.2 will be done.
B-1.2	Use 11 ft inside lanes and 12 ft outside lanes	\$436,000	Yes	This will be done.
B-3	Eliminate the 6 ft widening for the future 20 ft raised median	\$1,308,000	Yes	This will be done. A future 20 ft raised median is not warranted and the project will no longer be designed to accommodate the raised median.
B-4.1	Move the bicycle lanes behind the curb and incorporate with sidewalk as a multi-use trail	\$155,000	No	Multi-use paths pose a problem at intersections and side roads and in an urbanized area with numerous driveways. Many cyclists prefer the roadway bike lanes.
B-4.2	Eliminate bicycle lanes and widen sidewalk to 10 ft on one side of the street for use as a multi-use trail	\$255,000	No	There are commercial and residential areas on both sides of the roadway; therefore sidewalk should remain on both sides of the roadway.

B-7	Use 16 ft median in lieu of 20 ft	\$872,000	No	Since B-3 will be done, this no longer applies.
B-9	Reduce the 14 ft center turn lane to a 12 ft center turn lane	\$436,000	Yes	This will be done. This will require a design variance.
B-11.1	Realign Grove Blvd. to match concept report and close E. William Ave. with a cul-de-sac	(\$-980,000) Cost increase	Yes, with modifications	North and South Grove Boulevard will be realigned to intersect. This realignment will keep the angle of the road at 47°. As a result, the design will require a design exception. Increasing the angle to 90° would require an unwarranted increase in ROW takes, construction costs and environmental impacts. See attached layout for the proposed redesign.
B-11.2	Close E. William Ave. with a cul-de-sac	(\$-380,000) Cost increase	Yes	This will be done.
B-13	Reduce urban shoulders from 16 ft to 12 ft	\$1,600,000	Yes	This will be done. A design variance will be required.
B-16	Construct 20 ft raised median now	\$177,000	No	A future 20 ft raised median is not warranted and the project will no longer be designed to accommodate the raised median.
D-2	Utilize existing water main as much as possible	Design Suggestion	Yes	This will be done.
E-1	Recalculate earthwork estimate and quantities	Design Suggestion	Yes	This will be done.
I-3	Shift all widening to one side of SR 40	Design Suggestion	No	The current alignment was shifted 6 ½ ft to the left from the original alignment. Any further shift would increase the impact on the businesses on the left.
B-17	Shorten project limits	Design Suggestion	No	Due to current SR 40 conditions, it was necessary to extend the project limits to correct the tie-in conditions and to bring SR 40 up to current GDOT standards.

The Office of Engineering Services concurs with the Project Manager's responses.

Approved:  Date: 9/3/09
Gerald M. Ross, PE, Chief Engineer

REW/LLM

Attachments

c: Genetha Rice Singleton
Brad Saxon/Dennis Odom/Cassius Edwards/Rebecca Thigpen
Billy Smith
Sheree Smart
Will Murphy/Brian Czech
Nabil Raad
Lisa Myers
Matt Sanders